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REMARKS

Claims 1, 4-14, 16-18 and 20-28 are pending. Claims 1, 4-14, 16-18 and 20-28 stand rejected.

Claims 4 and 6 have been amended to correct for dependency.

Claim 24 has been amended to correct for grammar.

The Specification has been amended to indicate that the heat treated xanthan gum of Formulae 13-15 was heated in a fluid bed reactor at 235°F for 60 minutes. This is consistent with all of the other heat treated xanthan gum formulae exemplified (Formulae 1-7 and 31-41) with the exception of Formulae 26-30, which illustrate hair gels using xanthan gum heat treated under different conditions (different temperatures and/or times of heat treatment). Therefore, it is obvious that these same heat treating conditions were used in preparing the heat-treated xanthan of Formulae 13-15.

Accordingly, no new matter is introduced by these amendments.

Reply to the Rejection of Claims 1, 4-14, 16-18 and 20-28 under 35 U.S.C. § 102(b)

The Examiner has rejected Claims 1, 4-14, 16-18 and 20-28 as being anticipated by Japanese Patent Publication No. 11-236310 to Kousei Laboratories, Ltd. ("Kousei"). For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 1, 4-14, 16-18 and 20-28 as being anticipated by Kousei.

Kousei teaches cosmetics containing a xanthan gum having an apparent average molecular weight of 16,000,000 or higher (p. 2 of translation). The main chain of the gum is composed of β -(1,4) glucose bonds, and the side chain is composed of 2 mannose and 1 glucuronic acid (*id.*). The gum provides an improved thickening ability and stability over conventional xanthan gums (p. 3 of translation). When the weight average molecular weight is below 16,000,000, a sufficient thickening efficacy and improved stability is not obtained (p. 4 of translation).

The high molecular weight xanthan gum is obtained by heating the xanthan gum so that it has a drying decrease of 50 weight % or less at 100-140°C (212-284°F) for 30 minutes or more (pp. 4-5 of translation). The heat treatment can be performed in an inert gas that does not react with the xanthan gum or an inert solvent (p. 5 of translation). The inert gases and liquids help avoid discoloration of the gum (*id.*). Examples of inert gases

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included nitrogen, helium, carbon dioxide and water vapor (*id.*). Inert solvents include various alcohols, alkane diols, and ethers (*id.*).

'Drying decrease' is defined by Kousei as "the decrease in quantity when the gum is heated for 5 hours at 105°C under atmospheric pressure" (p. 4 of translation). Accordingly, at most, no more than half of the moisture in the gum should be removed when heat treated (see p. 5 of translation, stating that the raw gum should have a drying decrease (or decrease in quantity) of 50 weight % or less, preferably 20 weight % or less, and especially 15 weight % or less). According to Kousei, if the reduction in the amount of the gum when heat treated is greater than 50 weight % (*i.e.*, if the gum is dried to less than 50 weight % of its original raw weight), the gum temperature will not rise sufficiently and it will have no effect (p. 5 of translation). Kousei does not teach xanthan gum having "a moisture content of less than 50%, preferably less than 20%, and most preferably less than 15%", as asserted by the Examiner.

Further, this moisture content limitation stated by Kousei is in contrast to the Examiner's statement that the xanthan gum of Example 2 of Kousei would inherently have a moisture content of less than 8 % and less than 1 %. Because the xanthan gum of Example 2 is heat treated in air, and it is known that air contains moisture, one skilled in the art would NOT expect the xanthan gum of Example 2 of Kousei to have a moisture content of less than 8 %, even more so less than 1 %.

Cosmetics that the xanthan gum of Kousei are useful for include skin cosmetics such as foundations, rouges, eye shadows, mascaras, eye liners, lipsticks, toilet water, emulsions, lip creams, hand creams, cleansers and hair cosmetics (p. 11 of translation). Kousei only exemplifies skin cosmetics, and makes no other reference to hair cosmetics, including indicating what types of hair cosmetics its xanthan gums might be useful for (*e.g.*, shampoos, conditioners, hair sprays, gels, etc.; *id.*).

Regarding the Examiner's remarks that the term 'about' "permits some tolerance of ± 10 degrees", Applicants respectfully disagree and state that the Examiner's reliance upon *In re Ayers* and *In re Erickson* for this assertion is not supported by these references. *In re Ayers* simply stands for the proposition that the "term 'about' permits of some tolerance and the use of the words 'at least' before 'about' in the claim does not seem . . . to be a modification critical in character" (*In re Ayers*, 69 USPQ 109,

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112 (CCPA 1946)). The feature compared herein was "restricting the supply of air so that the gases within the heating zone contain *at least about 10%* of combined sulfur trioxide and sulfur dioxide" (*id.*). The art cited against Ayers taught that the concentration of sulfur dioxide and trioxide should not exceed *about 8%* (*id.*). Contrary to the Examiner's allegation, *Ayers* does NOT state the amount of tolerance.

In *In re Erickson* the applicant claimed "injecting a carburizing gas into said furnace at a selected gauge pressure of from two pounds per square inch to fifteen pounds per square inch" (*In re Erickson*, 145 USPQ 207, 208 (CCPA 1965)). The Court found this range to be clearly readable upon the art, which taught pressures of about fifteen pounds per square inch (*id.* at 209). Like *Ayers*, *Erickson* does NOT state the amount of tolerance.

Accordingly, neither *Ayers* nor *Erickson* teach the " ± 10 degrees" tolerance asserted by the Examiner. Therefore, the Examiner's rejection in this respect is unsupported and without merit. In this respect, the Examiner's statement that "both comparative examples have a curl retention around 70% at two hours, which falls, within applicant's scope of "about 80%" shows no consideration for the difference in performance illustrated in Figure 1 of the Martino Declaration. This Figure clearly illustrates that the xanthan gum of the prior art do NOT inherently meet the claimed recitation "wherein the composition has a high humidity curl retention of at least about 80% for two hours at 90% relative humidity", as the prior art does not teach or suggest xanthan gum having a moisture content of less than about 8% (*i.e.*, the art teaches a different xanthan gum). This Figure also illustrates that the prior art is NOT capable of performing the intended use, and therefore does not meet the limitation of "wherein the cosmetic composition is a hair fixative composition".

The standard for lack of novelty, that is, for 'anticipation', is one of strict identity. To anticipate a claim for a patent, a single prior source must contain all its essential elements. In other words, anticipation (lack of novelty) is established only if (1) all the elements of an invention, as stated in a patent claim, (2) are identically set forth, (3) in a single prior art reference. *Gechter v. Davidson*, 116 F.3d 1454, 1457, 43 USPQ2d 1030, 1032 (Fed. Cir. 1997) ("Under 35 U.S.C. § 102, every limit of a claim must identically appear in a single prior art reference for it to anticipate the claim"). As shown above,

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Kousei does not teach or suggest heat treating xanthan gum to a moisture content of less than about 8%. Further, as shown by the Martino Declaration the xanthan gum of Kousei does not provide a high humidity curl retention of at least about 80% for two hours at 90% relative humidity. Finally, Kousei only briefly mentions hair cosmetics and does not specifically teach hair fixative cosmetics, and has been shown to be incapable of performing this specific intended use.

For at least these reasons, Kousei does not teach or suggest with specificity each and every element of the presently claimed invention, and therefore cannot be said to anticipate it.

It is believed that these remarks overcome the Examiner's rejection of claims 1, 4-14, 16-18 and 20-28 as being anticipated by Kousei under 35 U.S.C. § 102(b). Withdrawal, therefore, of the rejection is respectfully requested.

Reply to the Rejection of Claims 12, 21, 22 and 27 under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 12, 21, 22 and 27 as being unpatentable over Kousei. For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 12, 21, 22 and 27 as being unpatentable over Kousei.

As shown above, Kousei does not teach or suggest xanthan gum heat treated to a moisture content of less than about 8%. Instead, Kousei teaches against drying the gum to half or less of its initial raw weight, as "the temperature of the xanthan gum will not rise sufficiently and it will have no effect" (p. 5 of translation). As claims 12, 21, 22 and 27 all depend from independent claims requiring xanthan gum having a moisture content of less than about 8%, in contrast to Kousei. With specific reference to claim 21, Kousei only briefly mentions hair cosmetics, and does not teach or suggest cosmetics having fixative properties. Instead, all of its Examples are directed towards skin cosmetics (e.g., creams, lotions, toilet water). As such, Kousei does not provide motivation to one skilled in the art to use its xanthan gum to provide fixative properties to hair.

For at least these reasons, Kousei does not teach or suggest each and every element of the presently claimed invention, and therefore cannot be said to render it obvious.

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It is believed that these remarks overcome the Examiner's rejection of claims 12, 21, 22 and 27 as being unpatentable over Kousei. Withdrawal, therefore, of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

Reply to the Rejection of Claims 13, 14, 16, 17, 20-23 and 28 under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 13, 14, 16, 17, 20-23 and 28 as being unpatentable over Kousei in view of U.S. Patent No. 6,113,881 to Bhatt *et al* ("Bhatt"). For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 13, 14, 16, 17, 20-23 and 28 as being unpatentable over Kousei in view of Bhatt.

Kousei teaches that its cosmetic compositions may include other ingredients such as water soluble polymers as long as they do not hinder the efficacy of the invention (p. 7 of the translation). These water soluble polymers include plant polymers, animal polymers, starch polymers, cellulose polymers, alginic acid polymers, vinyl polymers, polyoxyethylene and polyoxyethylene-polyoxypropylene copolymers, acrylic polymers and inorganic water soluble polymers (p. 8 of translation). Kousei also teaches that the ingredients include film forming agents such as polyvinyl alcohol and polyvinyl pyrrolidone. However, as noted by the Examiner, Kousei does not specify the instant polymers.

Bhatt is cited by the Examiner for its teachings of a polymer (carboxylated polyurethane resin) for use in surfactant-free hair mousse compositions. The mousse composition of Bhatt can further include an optional second hair fixative resin. This second hair fixative resin is present in the mousse composition in an amount of 0% to about 6% by weight of the composition (col. 12, lines 47-62). The second resin is added to reduce flaking associated with the carboxylated polyurethane resin and add stiffness to the hair (col. 13, lines 1-15).

Bhatt does not teach or suggest the use of natural polymers such as xanthan gum in its surfactant free hair mousse compositions, even as an optional second hair fixative resin. As shown above, Kousei does not teach cosmetics containing xanthan gum having a moisture content of less than about 8 %. Therefore, even if one were to combine Kousei with Bhatt, one still would not have the presently claimed invention.

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Considering the Kousei reference as a whole, one skilled in the art would understand Kousei as providing a solution for improved thickening (*i.e.*, greater viscosity). In contrast, considering the Bhatt reference as a whole, one skilled in the art would understand that enhanced viscosity is an undesirable effect (col. 13, lines 6-15, teaching that benefits include low viscosity). Therefore, one skilled in the art considering the Kousei reference as a whole and its objective of providing a cosmetic with improved thickening and stability, would not be motivated to look to Bhatt for a second polymer to include in its cosmetics, as Kousei states that only those ingredients can be added to its formulation that do not hinder the efficacy of its invention.

For at least these reasons, Kousei in view of Bhatt does not teach or suggest with specificity each and every element of the presently claimed invention, and therefore cannot be said to render it obvious.

It is believed that these remarks overcome the Examiner's rejection of claims 13, 14, 16, 17, 20-23 and 28 as being unpatentable over Kousei in view of Bhatt. Withdrawal, therefore, of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

Reply to the Rejection of Claims 1, 4-14, 16-18 and 20-28 under the Judicially Created Doctrine of Obviousness-type Double Patenting

The Examiner has rejected Claims 1, 4, 6-12 and 24-27 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10-11 of copending U.S. Patent Application No. 10/371 459. The Examiner has also rejected Claims 1, 4-14, 16-18 and 20-28 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of copending U.S. Patent Application No. 10/198 469.

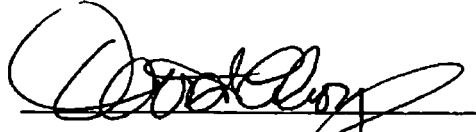
Submitted herewith is a terminal disclaimer disclaiming the terminal part of any patent granted with respect to claims 1, 4, 6-12 and 24-27 in view of U.S. Patent Application No. 10/371 459, and claims 1, 4-14, 16-18 and 20-28 in view of U.S. Patent Application No. 10/198 469.

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